In the claims:

1. (Currently Amended) A twelve channel electrocardiograph system comprising:

an acquisition element adapted to be disposed on a chest of a patent, to generate a twelve lead electrocardiograph signal and to be coupled to the patient through a set of relatively short leadwires;

a hand-held, battery powered portable processing element that is physically separate from the acquisition element ~~unit, that is~~ and coupled to the acquisition element through a connector cable, ~~that is~~ said portable processing unit controlled by a central processing unit through a graphical user interface, wherein said central processing unit provides a relatively low frequency reference clock frequency to the acquisition element through the connector cable, ~~and~~ wherein said acquisition element further comprising a digital signal processor ~~with~~ and an analog-to-digital converter that samples the twelve lead electrocardiogram signal under control of the digital signal processor and a plurality of programmable filters within the digital signal processor specifically adapted to filter the twelve lead electrocardiogram signal from the analog-to-digital converter under control of the central processing unit and wherein said digital signal processor further comprises a relatively high frequency internal clock that is synchronized to the relatively low frequency reference frequency of the central processing unit via a phase-locked loop; and

a windows operating system within the portable processing element that controls the acquisition element

and portable processing element through the graphical user interface.

2. (Original) The electrocardiograph system as in claim 1 wherein the processing element further comprises a display.

3. (Original) The electrocardiograph system as in claim 2 wherein the display further comprises a liquid crystal display.

4. (Original) The electrocardiograph system as in claim 3 wherein the liquid crystal display further comprises a color or monochrome graphical display with sufficient resolution to display waveforms.

5. (Original) The electrocardiograph system as in claim 2 wherein the display further comprises a touch screen interface.

6. (Original) The electrocardiograph system as in claim 1 wherein the processing element further comprises a compact flash card or similar memory expansion slot.

7. (Original) The electrocardiograph system as in claim 6 wherein the compact flash expansion slot further comprises a compact flash read only memory disposed in the compact flash card expansion slot.

8. (Original) The electrocardiograph system as in claim 1 wherein the processing element further comprises an infrared transceiver for communications.

9. (Original) The electrocardiograph system as in claim 1 wherein the processing element further comprises a radio frequency transceiver for communications.

10. (Original) The electrocardiograph system as in claim 1 wherein the processing element further comprises an audio recording unit.

11. (Original) The electrocardiograph system as in claim 1 wherein the acquisition element further comprises a plurality of signal conditioning circuits.

12. (Previously Presented) The electrocardiograph system as in claim 1 wherein the acquisition element further comprises a baseline sway filter.

13. (Previously Presented) The electrocardiograph system as in claim 1 wherein the acquisition element further comprises a pacemaker pulse detector adapted to detect pacemaker signals.

14. (Previously Presented) The electrocardiograph system as in claim 1 wherein the acquisition element further comprises analysis and interpretation.